

inferences. In the past medical training seldom included a study of scientific method, the "ancillary sciences" were taught to less than first degree levels and few doctors understood statistical methods. Conversely, students trained as clinical analysts are left insufficiently armed against contacts with a frequently arrogant profession.

The resulting flood of nonsense perpetrated in the name of "medical science" is most noticeable in the field of clinical lipid assays. E.g. cholesterol determinations show up not only cholesterol but also a number of similar substances. Consequently it is possible to choose methods to give high or low cholesterol values on the same serum, depending whether one wants to scare or reassure the patient.

Since few doctors know how to interpret chemical data and few of their tame chemists know or are confident enough to insist on the clinical significance of properly interpreted chemistry, simplistic "theories" on the dangers of cholesterol and magical merits of polyunsaturated fats abound to the detriment of public health and cause unwarranted damage to primary industries. Scientific progress also suffers when amateur claims are elevated to the status of dogma by princes of our feudal scientific community with the result that novel and fundamental studies are lucky to attract a small fraction of the sums spent on exercises in "epidemiology" (= statistical justification of poor analytical methods seen fit to support a strongly held prejudice).

There is no easy way to assess damage to health, agriculture and scientific progress in common terms but it is beyond doubt that a practical remedy would be cheaper. In our universities, and in the Colleges of Advanced Education that copy their mistakes, courses are too narrowly compartmentalised. Regional and national cliques that effectively control academic appointment and promotion favour the narrow specialist and detest the versatile, for the former is easier to shut up by specialists from the Big Brothers' League. A few more highly placed academics who are not idiots outside their sub-sub-speciality would go far to rectify evils of the present self-perpetuating and expanding academic fascism here and abroad.

A lipid chemist should be a good organic chemist with sophisticated knowledge of some branches of physics and physical chemistry, he should have a sound knowledge of biology, especially in the fields of biochemistry and pathology; he would also require competence in mathematics and an adult interest in philosophical matters bearing on scientific method.

One need not be an expert in any of these fields to realise that

a productive scientist of such qualifications would have difficulties with editors and referees of specialised journals. It is also clear that even if such obstacles were overcome he would be beaten for appointment, promotion and grants by diligent turners of the research equivalents of Tibetan prayer wheels.

Not surprisingly, lipid chemists are rarely found in leading academic positions. Industry, which, unlike universities, favours the versatile, offers better chances in a material sense but often in exchange for a greater freedom of enquiry.

The problem of lipid research can be summed up in the words of my late teacher, H. E. Fierz-David, an outstanding industrial chemist and a man of extreme-right Germanic views: "It is noteworthy how lipid research attracts the Jews." This oblique comment deserves to be quoted for the benefit of sophisticated readers at the risk that universities which continue to tolerate lipid chemists or improve their training in this age of oil jars occupied by Ali Baba's robbers will have to replace their Vice-Chancellor's car with a gig.

THE BOUNDARY BETWEEN LANGUAGES AND THE SOCIAL SCIENCES

WILLIAM BOSTOCK*

ONE of the least talked about, yet probably the most ill-conceived and costly of all of the boundaries between disciplines, is that which has come to exist between languages and all other disciplines, but particularly the social sciences.

Unlike the other boundaries between other disciplines, this is not a traditional one, nor is it found outside Australia. It is in fact a fairly recent development, and it is in some universities being enforced with increasing rigour. In 1964, there were only 139 students from faculties other than Arts who were studying a language at a university throughout the whole of Australia.¹ In the years since that survey was taken, this number has not significantly grown. Languages departments in Australian universities are almost invariably "literature" departments whose principal interest is in the field of aesthetic and literary analysis. The common experience of foreign language students is such that they rarely have significant training in any other disciplines besides languages, and similarly, students of other disciplines rarely can

*Lecturer in Political Science, University of Tasmania.

combine their specialisation with a significant level of language training. The concept of departmental specialisation is so deeply entrenched that members of the traditional departments are clearly felt to have no business teaching outside their area, any more than students are held to have a case for combining different disciplines in their studies. Indeed a student would be most ill-advised under the present arrangements to mix his specialisations, as he may well find that he has failed to achieve the degree of "specialisation" necessary for an employment in either. While university departments confine their attentions to the traditionally defined disciplines, human experience does not. It is not that the disciplines are wrongly or unsoundly based, so much as that they are isolated from contact with other disciplines which may be equally as necessary to the successful study of a particular problem or area of interest. The isolation of foreign languages from other disciplines in Australian universities has unfortunate consequences which must be recognised. Instead of occupying a central position in university degrees, foreign languages are regarded as strictly for specialists, while it is quite possible now, thanks to educational reforms, for a young Australian to go through his whole education, at all levels, without ever coming into contact with any word of any foreign language, and indeed, in the near future, probably the vast majority will do precisely this.

In the education systems of non-English speaking nations, this kind of complacency towards language-learning is a luxury that cannot be afforded. In British universities a fair degree of foreign language competence is demanded of all students, while even in America, the traditional home of isolationism, graduate students are expected to do a little foreign language study. Language learning in America always has been a precarious enterprise, suffering vulnerability to the periodically-made charge that to study something foreign is an act of disloyalty. Professor Forsyth notes that:

... a mood of intellectual isolationism is spreading in Australia with regard to language studies, and I find sufficient parallels with the American situation to make me uneasy.²

It is quite possible that the situation in Australia has advanced further than America.

There are a number of consequences flowing from this isolation of language studies. One is, as we have noted, that graduates in all non-language disciplines are overwhelmingly unaware of foreign languages. Secondly, the products of language departments are almost exclusively "language and literature" graduates untrained in any other discipline. Thirdly, language enrolments in universities

are shrinking proportionately, and possibly absolutely as well. Fourthly, vitally important areas of study are *out of bounds* because there are neither staff nor students qualified in *both* of, say, sociology and German, or physics and Russian, or oceanography and French, or commerce and Spanish. Lastly, from *The Australian* we read:

Learning of the Japanese language is sweeping across Australia. Thousands of businessmen, buyers, representatives, scientists, doctors and engineers are attending *adult classes* to gain first-hand knowledge of the language.³

They are not attending universities, of course, because there is no provision for them in the majority of cases. (The University of Western Australia is an exception.) In the older universities, students are permitted a certain degree of flexibility, and throughout Australia a few hundred of the total tertiary student population of over 125,000 are equipping themselves with some knowledge of a foreign language. In some of the new universities, however, rigid barriers have been erected around the faculties, or *schools* as they are called, which forbid the enrolment of a student of, say, a School of Social Sciences in a foreign language course. Very often foreign language departments in the newer universities are ones whose members would like to see social science students in their language classes, but who have found themselves baffled by this extraordinary situation, in particular, those members who are new to the educational philosophy which holds sway in Australia today.

Obviously, the boundaries that have been drawn around languages and around other disciplines are a major factor in the decline of foreign language learning which has been remarked upon on a number of occasions. In their Fifth Report, May 1972, for example, the members of the Australian Universities Commission wrote:

The Commission is concerned that available evidence points to a decline in foreign language study in Australia.⁴

The Decline of Foreign Language Study in Australia

Before the nature and role of the boundaries in question becomes clear, it is essential to know something of the general status of foreign language-learning in this country.

In 1964 Dr. Olive Wykes made a survey⁵ of foreign language teaching in Australian universities. The number of students taking one or more foreign languages in that year was 7,120. The number

of students from other faculties taking a foreign language in 1964 was, as we have already noted, 139.

In 1969 another survey⁶ was carried out. This showed that the number of language students had grown only to 8,314. Although the present position of language learning will not be known precisely for some time,⁷ it is fairly clear that language learning in Australia is being undertaken by a declining proportion of students, and quite possibly, a declining number, also. Enrolment figures for universities by departments are not available, but unofficial reports indicate that the situation in one university, the University of Tasmania, is being closely paralleled elsewhere.

Faculty of Arts in the University of Tasmania⁸

	(1) All Arts Under- graduates including Honours	(2) Modern Language Undergraduates including Honours	Percentage (2) of (1)
1958	876	91	10.39
1961	914	103	11.27
1964	1031	130	10.00
1967*	607.33	51.0	7.31
1968*	763.4	61.5	8.05
1969*	825.3	57.5	6.96
1970*	896.9	54.8	6.10

*The figures for these years are in E.F.T.S.
(Effective Full Time Student) units.

An informal enquiry to language departments has indicated that in the succeeding ten years the number of non-specialist language students, that is, those majoring in a discipline other than a language but taking a language, may have suffered a further decline, to the extent that it is only a mere handful or less of each of the disciplines at present under study in the whole of Australia. Response to the survey has been too inadequate to obtain an exact picture of the situation of language learning by people who are not specialist linguists. However, a clear correlation has emerged between the number of non-specialist linguists and, firstly, the age of the university; secondly, the degree of prior knowledge of the language demanded, and thirdly, the existence within a university of a Centre of Languages. At the Language Centre in the University of Melbourne, there are 284 students who, although majoring in other disciplines, are receiving foreign language instruction, while the Universities of New South Wales and Queensland have similar centres.⁹

The highest level of participation by non-specialist students in language courses is found in the older universities and in those

languages, not surprisingly, where a beginners' course is available. At the University of Sydney, for example, there are 76 students taking Elementary Indonesian, and approximately 30 enrolled for a similar course in French. However, the head of one foreign language department wrote:

The confinement of courses within petrified administrative structures (departments) especially in a long-established university of the sort that Sydney is, is very frustrating in its assignment of language learning only to literature courses.¹⁰

The University of Queensland has an enrolment of 200 students in the Introductory German course and 105 in Introductory French, coming from various faculties. The University of Melbourne has a special course in Indonesian Studies specifically designed for non-specialists. At the University of Western Australia, Italian has quite a large non-specialist enrolment, while French is in a similar position, as is German and Spanish at New South Wales. The Australian National University has a course in Science German being taken by 50 students, and also one in Science Russian, while the majority of students taking other courses in Russian are not specialists.

Some languages do not attract students who do not intend to specialise in them, though it might perhaps be more true to say that they do not yield readily to non-specialist study; however, the national need for them may be all the more great. Almost all students enrolling for a course in Japanese at the A.N.U. intend to major in the language, while only ten per cent of those taking Chinese are not majoring in a language. The Chairman of the Department of Japanese at Monash University, Professor Neustupny, has stated in a letter to *The Australian*:¹¹

... it is fair to admit that even though graduates in Japanese from most universities can communicate, albeit not fluently, in the language, they normally lack other professional skills. They are neither economists nor political scientists, lawyers or sociologists, engineers or natural scientists.

At James Cook University, one-year introductory courses in Indonesian and Italian are planned, in addition to the French already in progress. Unlike Japanese, these languages are more amenable to study by non-specialists. Griffith University will have a Language Centre which will provide courses for students of other disciplines requiring a knowledge of languages which will, presumably, be provided "from scratch". In so far as it is a recognition of the central necessity of a foreign language for the successful study of

many subjects, this is a valid approach to the problem of disciplinary boundaries. For students with advanced knowledge of a foreign language, the exercise of acquiring competence in an additional and especially a related language would be highly effective. However, it is extremely doubtful whether a student at tertiary level making his first acquaintance ever with a foreign language could make much progress. It is well known that language learning ability is at its maximum in early childhood and then declines with increasing rapidity as the brain cells harden.

The general picture that emerges then is one of generally declining language enrolments, in a context of the enormous expansion in tertiary enrolments of the last decade. This is attributed partly to disciplinary boundaries, but also to the impact of new educational concepts on the organisation of secondary education which are now being fed on into tertiary education, and which we shall consider presently.

The Concept of the "Social Science"

At Flinders and La Trobe Universities, however, there is the presence of an additional element not found in the other universities. This is a special concept of a "Social Science". At Flinders, students of the School of Social Sciences are permitted to study a language, but only a total of four in eight years have done so. At La Trobe, one language department head has advised that:

The School of Social Sciences has always been very reluctant to allow, let alone encourage, its students to take a language subject even where that subject has a direct bearing on their Social Science studies.¹²

This is confirmed by information in the Students' Handbook which states that:

Only disciplines offered within the School of Social Sciences may be taken, except that a first-year Modern Languages unit may be taken in place of a second-year Social Sciences subject with special permission of the Dean.¹³

Moreover, it is believed that this *special permission* is generally refused.

Further confirmation of the situation at Flinders is provided by the introductory note which accompanies advertisements for the School of Social Sciences:

The School of Social Sciences is an integrated School encompassing disciplines of American Studies, Asian Studies, Economics, Economic History, Education, Geography, History, Politics, Psychology, Sociology and Social Administration. The

School is attempting to further interdisciplinary linkages among these disciplines through teaching and research.¹⁴

This School does not, we must therefore conclude, intend to encourage the exploration of possible linkages between any of its disciplines and any language.

How valid is the concept of a non-linguistic social science, that is, a social science detached from a study of the language in which any given society conducts its affairs? In the case of economics, a defence might be attempted in that the variables are quantitative rather than qualitative. But even this must be questioned, because behind the statistics of income, prices or employment, there are always cultural factors, which, because they are cultural, are related to language. We find, for example,¹⁵ in the south-west of the United States a group of 3½ million Spanish-speaking people, whose socio-economic status is, on some scales, even lower than that of Negroes. The values central to their culture and embodied in their language run counter to the prevailing Anglo-Saxon work ethic. A knowledge of their language is thus fundamental to an appreciation of their economic performance. Similarly for anthropology, sociology, political science, or indeed any other approach to the understanding of any society, language is in the same position, as not simply the medium of communication (to be assumed as given) but a highly relative set of common concepts, categories and perceptions, the sharing of which binds people together: "communication implies community", in André Martinet's phrase.¹⁶

It is difficult to understand the indifference of many modern social scientists to language. One explanation that has been given is that:

... sociologists have considered language as an omnipresent and invariant feature of every society, thereby failing to see its causal influence on social action.¹⁷

Social scientists trained in the English-speaking world have, in addition, been imbued with a strong predisposition towards precise, statistically valid data about observable variables, rather than the much more imprecise entities of language and culture. Moreover, possibly because of Australia's geographical isolation, social scientists working here have tended to concentrate upon trying to apply British and American models to the local scene, and have often shown a preoccupation with analysing Australian society in preference to the analysis of other societies.

Though many social scientists in Australia may have an anti-linguistic bias on account of the unequal distribution of language skills and language learning facilities, it is probably true also that

many language academics have an anti-social science bias. In 1965 Professors McManners and Crawford wrote:

Some sections of the humanities, particularly the languages, are bedevilled with a sense of being on the defensive in a world unfavourable to their values.¹⁸

This is perfectly understandable, under the circumstances in which languages, particularly the traditional ones, are under attack. The relevance of French, for example, was questioned not only by social scientists but by a former Vice-Chancellor of the University of Adelaide, who thought that French in Adelaide should be allowed to "die off". In fact such an attempt was actually made in 1969 to abandon French in that university.¹⁹ Relevance, of course, begs always the question of "relevance for what?" which we shall consider presently.

The Conflict of Educational Values

Not only is there a conflict between the entrenched disciplines, language or other, which demand loyalty of their students, but there is a conflict between educational values. Languages have been the innocent victims of educational reforms based on the twin concepts of "equality of educational opportunity" and "freedom of choice between equal subjects". The first means that people of low socio-economic status should not be penalised educationally and so entry requirements to university have been lowered or eliminated. Moreover, children who are lacking in ability should not be penalised either, so that classes at most state schools have been made comprehensive with regard to the abilities of pupils. The concept of "all subjects being equal" means that children are encouraged to freely express choices between subjects. However, much we may share and applaud the aim of the educational reformers to reduce differences of opportunity between people of different backgrounds, and the sincerity with which it is often held, the deleterious effects on the educational level of students entering university are unmistakable. Firstly, the teaching of "cumulative" subjects is totally undermined. Languages, like mathematics, must necessarily presuppose levels of attainment. They simply cannot be taught simultaneously to a group of children of widely different levels of attainment and ability, in a context where teachers are expected to justify the validity and relevance of their difficult subjects in relation to the pressing problems of pollution, sex discrimination, over-urbanisation, and race relations. It is not that these problems should not be discussed at school, but that a knowledge of intellectual skills such as foreign languages may better equip a child to grapple with these problems in later life, which

is sometimes overlooked. The relations between the sexes in our society, for example, have been strongly demanded as a subject of study. Probably the most effective way, however, of setting about this enterprise would be to study the same relationship in societies with a different culture to that of the English-speaking countries. Unfortunately many young people are encouraged to expect *instant* benefits of education, and if these are not forthcoming, to exercise the right they are now given as consumers to opt out of languages, and mathematics, in favour of disciplines which are less demanding intellectually, and which are non-cumulative and therefore involve no prior knowledge, nor indeed will demand any knowledge at any future time should someone ever wish to become interested in them. Secondary school social science is of this nature.

Moreover, when the language requirement is no longer present in university entrance requirements, as it is not at Flinders and La Trobe, there is no point in taking a language at school. Professor Forsyth has observed that:

The apparently liberal admissions policy adopted by La Trobe to provide an opportunity for talented students whose progress was blocked by the obstacle of a formal requirement has in fact brought a rush of students unqualified to enter the other universities, and is almost certainly having an adverse effect on both language and mathematics teaching in the secondary schools.²⁰

It is perhaps ironic that while children are now offered so much freedom in their choice of subjects at school, they are offered so little opportunity to combine disciplines when they reach university. Indeed, it is natural that in a society where so little faith is held in the intellectual training of children, so much faith should be placed in the powers of the "expert" steeped in his specialisation.

Although we may doubt whether the reform of education along progressive lines will really make society more equal, but instead simply push the elite selecting process further to several higher degrees of specialisation, the inevitability of changes in educational theories and practices must never be denied. But we may question the validity of this kind of educational reform.

Conclusion

There are two fundamental causes at the basis of the foreign language crisis in Australia which has been described by an Australian Cabinet Minister, Mr. A. J. Grassby, as "a national disgrace".²¹ The first is the attempt to make education available to everyone, not by lifting students to meet the standards of demanding subjects like languages, but by lowering standards through the

elimination of languages, and thereby devaluing the education received.

The second cause is the perpetuation of rigid disciplinary boundaries, and even, in some of the newer universities, the erecting of new ones where none existed before. The dissatisfaction of students with this kind of arrangement is reflected in the boom in adult education language enrolments in centres throughout the country.

Freedoms once given cannot easily be taken back, and so the members of foreign language departments must accept, though most probably do not, that the day of serious language preparation in secondary school is over for ever, except for the minority of children who are already bilingual and who are fortunate enough to attend a bilingual school, or whose parents are rich enough to be able to send them to a school where languages continue to be taught.

At the university level, language centres and beginners' courses within existing departments, and the freeing of the acquisition of a language skill from its traditional role, that of literary and aesthetic analysis, for use in other roles as well will all help. One important form of organisation of academic work widely employed in other countries is the "context" or "area study", as described by Associate Professor M. Clyne,²² where scholars from a number of different disciplines can work on a common area of study in which a language is the unifying element. This would be at its most effective at graduate school level where a basic level of language and other disciplinary competence may be presupposed. It is vitally necessary that the isolation of foreign language learning in Australian universities be broken in as many ways as possible so that at least those students who want to understand what is going on in foreign countries and who are at present discouraged from doing so, may be given the opportunity to do so.²³

In the wider context of the whole of Australian society, it can only be presented clearly to all the members of the society that when they decide that foreign languages are not relevant, they are deciding that foreign countries are not relevant either. Professor Sussex has written that:

It is idle in these circumstances to pretend that Australia can "go it alone" in splendid monolingualism.²⁴

No society can both isolate itself linguistically and still play a positive role in the scientific and intellectual world. The boundaries surrounding the study of languages in Australia have thus come to form an unnecessary restriction on the number of areas open to enquiry while serving no useful purpose.

NOTES

- * Olive Wykes, "Survey of Foreign Language Teaching in the Australian Universities. A report prepared by Dr. Olive Wykes with Recommendations by the Sub-Committee on Foreign Languages", submitted to the Australian Humanities Research Council, November, 1966.
- * E. C. Forsyth, *The Relevance of Rabelais, Some Thoughts on the Place of French Studies in an Australian University*, La Trobe University Inaugural Lecture (Bundoora: 1970), p. 12.
- * *The Australian*, May 8, 1973. (Emphasis mine.)
- * Commonwealth of Australia, *Fifth Report of the Australian Universities Commission*, Canberra, May 1972, p. 96.
- * *Op. cit.*, pp. 13-14.
- * *Report by the Commonwealth Advisory Committee on the Teaching of Asian Languages and Cultures in Australia*, Canberra, August 1970.
- * A full study of the whole of Australia is now in progress by the Australian Academy of the Humanities through its Sub-Committee on Foreign Languages under the chairmanship of Emeritus Professor R. Samuel.
- * University of Tasmania, *Submission to the Australian Universities Commission*, September 1959, April 1962, December 1970.
- * It is too soon for the C.A.E.'s to make a significant impact here. Some current foreign language enrolment figures are: R.M.I.T., 12; W.A.I.T., 49; T.C.A.E., 25; C.C.A.E., 208.
- * Personal correspondence, quoted with consent.
- * *The Australian*, September 10, 1973.
- * Personal correspondence, quoted with consent.
- * 1973 edition, p. 49.
- * *The Australian*, 27th October, 1973.
- * See J. A. Fishman (ed.), *Language Loyalty in the United States* (The Hague, Mouton, 1966).
- * André Martinet, *A Functional View of Language* (Oxford: O.U.P., 1961), p. 107.
- * Pier Paolo Giglioli, "Introduction", in Pier Paolo Giglioli (ed.), *Language and Social Context* (Hammondsworth: Penguin, 1972), p. 11.
- * J. McManners and Crawford, R. M., *The Future of the Humanities in the Australian Universities* (Melbourne: M.U.P., 1965, p. 9, quoted by Wykes, *op. cit.*, p. 2).
- * Forsyth, *op. cit.*, pp. 3-4.
- * *Ibid.*, pp. 8-10.
- * *The Australian*, 2nd October, 1973.
- * Michael Clyne, "Some Thoughts on Departmental Structure", *Vestes Symposium: Boundaries Between Disciplines*, September 1974 (forthcoming).
- * See D. E. Ingram, "Towards a More Articulate Australia, The Case for Applied Linguistics and Language Centres", *Australian Journal of Education*, Vol. 17, No. 1 (March 1973).
- * R. T. Sussex, *Language and Languages in Australia*, Inaugural Lecture, James Cook University of North Queensland, March 1973.

GUERRILLA LINGUISTICS

RAY CATTELL*

SOME subjects are born interdisciplinary.† If lines of research in several traditional fields converge, the researchers involved

* Sub-Department of Linguistics, University of Newcastle.

† It will be obvious to the reader that the term "discipline" is used fairly loosely in this article, to mean "field of study". I am aware of different and more tightly constrained definitions, but find this one more relevant to what I want to say. If anyone feels strongly that I am misusing the word "discipline", I will be happy if he will mentally substitute whatever term he prefers.